AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph beginning at page 3, line 19, with the following replacement paragraph in marked up form:

In order to attain the above object, an audio information transforming method ~~set forth in Claim 1~~ according to at least one embodiment may be applied to a video/audio format in which a screen includes a plurality of objects and each object has video information, position information, and audio information, comprises a virtual listening point setting step of setting a virtual listening point at a position different from a basic listening point that is set as a position at which a listener listens to an audio; a relative velocity calculating step of calculating a relative velocity between the virtual listening point and the object; and an audio frequency transforming step of executing an audio frequency transformation based on the relative velocity to add a Doppler effect to the audio information at the virtual listening point.

Please replace the paragraph beginning at page 4, line 22, with the following replacement paragraph in marked up form:

~~Also, in the audio information transforming method set forth in Claim 2,~~ Also, according to at least one embodiment, the relative velocity calculating step calculates the relative velocity between the virtual listening point and the object by calculating velocity information of the object based on position information of the object before and after a predetermined time has lapsed.

Please replace the paragraph beginning at page 5, line 17 with the following replacement paragraph in marked up form:

~~Also, in the audio information transforming method set forth in Claim 3,~~ Also, according to at least one embodiment, the relative velocity calculating step calculates the relative velocity by extracting velocity information of the object and then comparing the position information and the velocity information of the object and position information of the virtual listening point.

Please replace the paragraph beginning at page 6, line 7, with the following replacement paragraph in marked up form:

Also~~, in the audio information transforming method set forth in Claim 4,~~ Also, according to at least one embodiment, the relative velocity calculating step calculates the relative velocity between the virtual listening point and the object by calculating velocity information of the virtual listening point based on position information of the virtual listening point before and after a predetermined time has lapsed.

Please replace the paragraph beginning at page 7, line 3, with the following replacement paragraph in marked up form:

~~In the audio information transforming method set forth in Claim 5,~~ Also, according to at least one embodiment, the relative velocity calculating step calculates the relative velocity by extracting velocity information of the virtual listening point and then comparing position information and the velocity information of the virtual listening point and the position information of the object.

Please replace the paragraph beginning at page 7, line 20, with the following replacement paragraph in marked up form:

~~Also, an audio information transforming method set forth in Claim 6~~ Also, according to at least one embodiment, an audio information transforming method is applied to a video/audio format in which each scene that is replayed on a screen has video information and audio information, and the scene has velocity information and direction information based on which a background is moved, comprises a virtual listening point setting step of setting a virtual listening point at a position different from a basic listening point that is set as a position at which a listener listens to an audio; a relative velocity calculating step of calculating a relative velocity between the virtual listening point and a background based on the velocity information and the direction information of the background; and an audio frequency transforming step of transforming an audio frequency based on the relative velocity to add a Doppler effect to the audio information at the virtual listening point.

Please replace the paragraph beginning at page 8, line 22 with the following replacement paragraph in marked up form:

~~An audio information transforming method set forth in Claim 7,~~ Also, according to at least one embodiment, when the audio information including the Doppler effect previously is included in the object, the audio frequency transforming step executes an audio frequency transformation to cancel the Doppler effect included in the audio information of the object, and executes the audio frequency transformation based on the relative velocity to add the Doppler effect to the audio information of the virtual listening point.

Please replace the paragraph beginning at page 9, line 15, with the following replacement paragraph in marked up form:

~~In the audio information transforming method set forth in Claim 8,~~ Also, according to at least one embodiment, audio information transformation at a time of final image unit is executed by adding the Doppler effect to the audio information at the virtual listening point by using a formula by which the audio frequency transformation of the audio information at the virtual listening point prior to the final image by one image unit is executed.

Please replace the paragraph beginning at page 10, line 9, with the following replacement paragraph in marked up form:

~~In the audio information transforming method set forth in Claim 9,~~ Also, according to at least one embodiment, the video/audio format includes reduced scale information of the screen every scene.

Please replace the paragraph beginning at page 10, line 12, with the following replacement paragraph in marked up form:

According to such method, when the reduced scale of the screen is changed by zoom-in, zoom-out, or the like of the replayed screen, the audio information transformation set forth in ~~Claims 1 to 8~~ at least one embodiment can be executed precisely.

Please replace the paragraph beginning at page 10, line 16, with the following replacement paragraph in marked up form:

A video/audio format ~~set forth in Claim 10 that~~ at least one embodiment includes velocity information of the object, or velocity information and direction information of the scene, or reduced scale information of the screen every scene, which are employed in the audio

information transforming method set forth in at least one other embodiment. ~~any one of Claims 1 to 9.~~

Please replace the paragraph beginning at page 10, line 22, with the following replacement paragraph in marked up form:

~~An encoder set forth in Claim 11 that~~ Also, at least one embodiment encodes velocity information of the object, or velocity information and direction information of the scene, or reduced scale information of the screen every scene, which are employed in the audio information transforming method set forth in at least one other embodiment. ~~any one of Claims 1 to 9.~~

Please replace the paragraph beginning at page 11, line 2, with the following replacement paragraph in marked up form:

According to such encoder, the velocity information of the object, the velocity information and the direction information of the scene, and the reduced scale information of the screen every scene are encoded, and then these information are included in the video/audio format. Therefore, the audio information transformation set forth in at least one other embodiment ~~any one of Claims 1 to 9~~ can be implemented.

Please replace the paragraph beginning at page 11, line 9 with the following replacement paragraph in marked up form:

In order to attain the above object, an audio information transforming program ~~set forth in Claim 12~~ in at least one other embodiment causes a computer to execute, a procedure of

setting a virtual listening point at a position different from a basic listening point that is set as a position at which a listener listens to an audio; a procedure of calculating a relative velocity between the virtual listening point and the object; and a procedure of executing an audio frequency transformation based on the relative velocity to add a Doppler effect to the audio information at the virtual listening point.

Please replace the paragraph beginning at page 12, line 11, with the following replacement paragraph in marked up form:

In the audio information transforming ~~program set forth in Claim 13,~~ according to at least one embodiment, the procedure of calculating the relative velocity includes a procedure of calculating velocity information of the object based on position information of the object before and after a predetermined time has lapsed.

Please replace the paragraph beginning at page 13, line 6, with the following replacement paragraph in marked up form:

In the audio information transforming program ~~set forth in Claim 14,~~ according to at least one embodiment, the procedure of calculating the relative velocity includes a procedure of extracting velocity information of the object and then comparing the position information and the velocity information of the object and position information of the virtual listening point.

Please replace the paragraph beginning at page 14, line 4, with the following replacement paragraph in marked up form:

In the audio information transforming program ~~set forth in Claim 15,~~ according to at least one embodiment, the procedure of calculating the relative velocity includes a procedure of calculating velocity information of the virtual listening point based on position information of the virtual listening point before and after a predetermined time has lapsed.

Please replace the paragraph beginning at Page 14, line 26, with the following replacement paragraph in marked up form:

~~In the audio information transforming program set forth in Claim 16,~~ According to at least one embodiment, the procedure of calculating the relative velocity includes a procedure of calculating the relative velocity by extracting velocity information of the virtual listening point and then comparing position information and the velocity information of the virtual listening point and the position information of the object.

Please replace the paragraph beginning at page 15, line 24 with the following replacement paragraph in marked up form:

An audio information transforming program ~~set forth in Claim 17~~ according to at least one embodiment causes a computer to execute, a procedure of setting a virtual listening point at a position different from a basic listening point that is set as a position at which a listener listens to an audio; a procedure of calculating a relative velocity between the virtual listening point and a background according to a velocity and a direction based on which the background of a scene is moved; and a procedure of executing an audio frequency transformation based on the relative velocity to add a Doppler effect to the audio information at the virtual listening point.

Please replace the paragraph beginning at page 16, line 21 with the following replacement paragraph in marked up form:

In the audio information transforming program ~~set forth in Claim 18,~~ according to at least one embodiment, when the audio information including the Doppler effect previously is included in the object, the procedure of executing an audio frequency transformation includes a procedure of executing an audio frequency transformation to cancel the Doppler effect included in the audio information of the object, and executing the audio frequency transformation based on the relative velocity to add the Doppler effect to the audio information of the virtual listening point.

Please replace the paragraph beginning at page 17, line 20, with the following replacement paragraph in marked up form:

In the audio information transforming ~~program set forth in Claim 19,~~ according to at least one embodiment, when audio information transformation at a time of final image unit is executed, a procedure of adding the Doppler effect to the audio information at the virtual listening point by using a formula, by which the audio frequency transformation of the audio information at the virtual listening point prior to the final image by one image unit is executed, is included.

Please replace the paragraph beginning at page 18, line 20, with the following replacement paragraph in marked up form:

In the audio information transforming program ~~set forth in Claim 20,~~ according to at least one embodiment, the video/audio format includes reduced scale information of the screen every

scene.

Please replace the paragraph beginning at page 19, line 7, with the following replacement paragraph in marked up form:

In order to attain the above object, an audio information transforming device ~~set forth in Claim 21~~ according to at least one embodiment for a video/audio format in which a screen includes a plurality of objects and each object has video information, position information, and audio information, comprises a virtual listening point setting section for setting a virtual listening point at a position different from a basic listening point that is set as a position at which a listener listens to an audio; a relative velocity calculating section for calculating a relative velocity between the virtual listening point and the object; and an audio frequency transforming section for executing an audio frequency transformation based on the relative velocity to add a Doppler effect to the audio information at the virtual listening point.

Please replace the paragraph beginning at page 20, line 10, with the following replacement paragraph in marked up form:

In the audio information transforming device ~~set forth in Claim 22,~~ according to at least one embodiment, the relative velocity calculating section calculates the relative velocity by comparing position information of the virtual listening point and the position information of the object and the position information of the virtual listening point and the position information of the object after a predetermined time has lapsed.

Please replace the paragraph beginning at page 20, line 26, with the following replacement paragraph in marked up form:

In the audio information transforming ~~device set forth in Claim 23,~~ according to at least one embodiment, the relative velocity calculating section calculates the relative velocity by comparing the position information and velocity information of the object and the position information of the virtual listening point.

Please replace the paragraph beginning at page 21, line 12, with the following replacement paragraph in marked up form:

In the audio information transforming device ~~set forth in Claim 24,~~ according to at least one embodiment, the relative velocity calculating section calculates the relative velocity by comparing the position information of the object and the position information and velocity information of the virtual listening point.

Please replace the paragraph beginning at page 21, line 24, with the following replacement paragraph in marked up form:

An audio information transforming device ~~set forth in Claim 25~~ according to at least one embodiment for a video/audio format in which each scene that is replayed on a screen has video information and audio information, and the scene has velocity information and direction information based on which a background is moved, comprises a virtual listening point setting section for setting a virtual listening point at a position different from a basic listening point that is set as a position at which a listener listens to an audio; a relative velocity calculating section for calculating a relative velocity between the virtual listening point and the background based

on the velocity information and the direction information of the background; and an audio frequency transforming section for executing an audio frequency transformation based on the relative velocity to add a Doppler effect to the audio information at the virtual listening point.

Please replace the paragraph beginning at page 49, line 10, with the following replacement paragraph in marked up form:

As described in detail as above, according to the audio information transforming method ~~set forth in Claim 1,~~ of at least one embodiment, with respect to the object having the video/audio information constituting the scene that is replayed on the screen in the video/audio format such as MPEG 4, for example, the Doppler effect can be added to the audio information at the virtual listening point such that, for example, the frequency of the sound is increased if the object approaches the virtual listening point or the frequency of the sound is decreased if the object leaves the virtual listening point. Therefore, the audio environment with the strong appeal/reality, which enables the listener to feel that such listener just enters into the video (the virtual listening point), can be produced.

Please replace the paragraph beginning at page 49, line 24, with the following replacement paragraph in marked up form:

According to the audio information transforming method ~~set forth in Claim 2,~~ of at least one embodiment, the Doppler effect caused by the movement of the object can be calculated/processed easily by using the coded position information of the object. Therefore, the audio environment with the appeal/reality, which enables the listener to grasp such a situation that the object in the screen is moving from the virtual listening point by the audio, can be

produced.

Please replace the paragraph beginning at page 50, line 7, with the following replacement paragraph in marked up form:

According to the audio information transforming method ~~set forth in Claim 3,~~ of least one embodiment, there is no necessity to calculate the velocity of the object by the operation, and the burden of the calculating process can be reduced correspondingly. In addition, the processing speed can be improved.

Please replace the paragraph beginning at page 50, line 13, with the following replacement paragraph in marked up form:

According to the audio information transforming method ~~set forth in Claim 4,~~ of least one embodiment, the Doppler effect caused by the movement of the virtual listening point can be calculated/processed easily by using the position information of the virtual listening point. Therefore, the audio environment with the appeal/reality, which enables the listener to grasp such a situation that the listener himself or herself (positioned at the virtual listening point) is moving by the audio, can be produced.

Please replace the paragraph beginning at page 50, line 22, with the following replacement paragraph in marked up form:

According to the audio information transforming method ~~set forth in Claim 5,~~ of least one embodiment, there is no necessity to calculate the velocity of the virtual listening point by the operation, and the burden of the calculating process can be reduced correspondingly. In addition,

the processing speed can be improved.

Please replace the paragraph beginning at page 51, line 2, with the following replacement paragraph in marked up form:

According to the audio information transforming method ~~set forth in Claim 6,~~ of least one embodiment, with respect to the scene that is replayed on the screen in the video/audio format such as DVD, for example, the Doppler effect is added to the audio information at the virtual listening point in response to the moving speed of the background. Therefore, the audio environment with the strong appeal/reality, which enables the listener to feel that such listener just enters into the video (the virtual listening point) and to grasp such a situation that the background of the screen is moving from the virtual listening point by the audio, can be produced.

Please replace the paragraph beginning at page 51, line 13, with the following replacement paragraph in marked up form:

According to the audio information transforming method ~~set forth in Claim 7,~~ of least one embodiment, in the case that the audio information including the Doppler effect previously is included in the object, first such Doppler effect included in the audio information is canceled, and then the Doppler effect is added to the audio information at the virtual listening point. Therefore, even if the Doppler effect is included in the audio information prior to the transformation, the Doppler effect caused when the object in the screen moves from the virtual listening point can be expressed precisely.

Please replace the paragraph beginning at page 51, line 24 with the following replacement paragraph in marked up form:

According to the audio information transforming method ~~set forth in Claim 8,~~ of least one embodiment, in the case that the position information of the succeeding screen cannot be obtained at the time of the final image of the title that is now being replayed, for example, the audio frequency of the object, which is heard at the virtual listening point, can be calculated by using the formula of the audio frequency transformation that is obtained in audio frequency transformation processing in the preceding image of the final image. Therefore, such a possibility can be eliminated that the audio frequency transformation cannot be executed in the final image of the title, or the like because of lack of information.

Please replace the paragraph beginning at page 52, line 11, with the following replacement paragraph in marked up form:

According to the audio information transforming method ~~set forth in Claim 9,~~ of least one embodiment, when the reduced scale of the screen is changed by zoom-in, zoom-out, or the like of the replayed screen, the audio information transformation set forth in ~~Claims 1 to 8~~ at least one other embodiment can be executed precisely.

Please replace the paragraph beginning at page 52, line 16, with the following replacement paragraph in marked up form:

According to the video/audio format ~~set forth in Claim 10,~~ of least one embodiment, the velocity information of the object, the velocity information and the direction information of the scene, and the reduced scale information of the screen every scene are encoded by the encoder

set forth in Claim 11, and then these information are included in the video/audio format. Therefore, the audio information transformation set forth in ~~any one of Claims 1 to 9~~ at least one other embodiment can be implemented.

Please replace the paragraph beginning at page 52, line 25, with the following replacement paragraph in marked up form:

According to the audio information transforming program ~~set forth in Claim 12,~~ of least one embodiment, with respect to the object having the video/audio information constituting the scene that is replayed on the screen in the video/audio format such as MPEG 4, for example, the Doppler effect can be added to the audio information at the virtual listening point such that, for example, the frequency of the sound is increased if the object approaches the virtual listening point or the frequency of the sound is decreased if the object leaves the virtual listening point. Therefore, if the recording medium (the memory such as ROM, or the like) in which this program is recorded is employed the video/audio player (DVD player, LD player, game, MPEG player, system in the movie theater, etc.) that can produce the audio environment with the appeal/reality, which permits the listener to feel that such listener just enters into the video (the virtual listening point), can be implemented.

Please replace the paragraph beginning at page 53, line 17, with the following replacement paragraph in marked up form:

According to the audio information transforming program ~~set forth in Claim 13,~~ of least one embodiment, the Doppler effect caused by the movement of the object can be calculated/processed easily by using the coded position information of the object. Therefore, if

the recording medium (the memory such as ROM, or the like) in which this program is recorded is employed, the video/audio player (DVD player, LD player, game, MPEG player, system in the movie theater, etc.) that can produce the audio environment with the appeal/reality, which enables the listener to grasp such a situation that the object in the screen is moving from the virtual listening point by the audio, can be implemented.

Please replace the paragraph beginning at page 54, line 3, with the following replacement paragraph in marked up form:

According to the audio information transforming program ~~set forth in Claim 14,~~ of least one embodiment, there is no necessity to calculate the velocity of the object by the operation, and the burden of the calculating process can be reduced correspondingly, and in addition the processing speed can be improved. Therefore, if the recording medium (the memory such as ROM, or the like) in which this program is recorded is employed, the video/audio player (DVD player, LD player, game, MPEG player, system in the movie theater, etc.) that can produce the audio environment with the appeal/reality, which enables the listener to grasp such a situation that the object in the screen is moving from the virtual listening point by the audio, can be implemented.

Please replace the paragraph beginning at page 54, line 16, with the following replacement paragraph in marked up form:

According to the audio information transforming program ~~set forth in Claim 15,~~ of least one embodiment, the Doppler effect caused by the movement of the virtual listening point can be calculated/processed easily by using the position information of the virtual listening point.

Therefore, if the recording medium (the memory such as ROM, or the like) in which this program is recorded is employed, the video/audio player (DVD player, LD player, game, MPEG player, system in the movie theater, etc.) that can produce the audio environment with the appeal/reality, which enables the listener to grasp such a situation that the listener himself or herself (positioned at the virtual listening point) is moving by the audio, can be implemented.

Please replace the paragraph beginning at page 55, line 4, with the following replacement paragraph in marked up form:

According to the audio information transforming program ~~set forth in Claim 16,~~ <u>of least one embodiment,</u> there is no necessity to calculate the velocity of the virtual listening point by the operation, and the burden of the calculating process can be reduced correspondingly, and in addition the processing speed can be improved. Therefore, if the recording medium (the memory such as ROM, or the like) in which this program is recorded is employed, the video/audio player (DVD player, LD player, game, MPEG player, system in the movie theater, etc.) that can produce the audio environment with the appeal/reality, which enables the listener to grasp such a situation that the listener himself or herself is moving by the audio, can be implemented.

Please replace the paragraph beginning at page 55, line 18, with the following replacement paragraph in marked up form:

According to the audio information transforming program ~~set forth in Claim 17,~~ <u>of least one embodiment,</u> with respect to the scene that is replayed on the screen in the video/audio format such as DVD, for example, the Doppler effect is added to the audio information at the virtual listening point in response to the moving speed of the background. Therefore, if the

recording medium (the memory such as ROM, or the like) in which this program is recorded is employed, the video/audio player (DVD player, LD player, game, MPEG player, system in the movie theater, etc.), which can produce the audio environment with the strong appeal/reality, can be implemented.

Please replace the paragraph beginning at page 56, line 4, with the following replacement paragraph in marked up form:

According to the audio information transforming program ~~set forth in Claim 18,~~ of least one embodiment, even if the Doppler effect is included in the audio information prior to the transformation, the Doppler effect caused when the object in the screen moves from the virtual listening point can be expressed precisely. Therefore, if the recording medium (the memory such as ROM, or the like) in which this program is recorded is employed, the video/audio player (DVD player, LD player, game, MPEG player, system in the movie theater, etc.), which can produce the audio environment with the strong appeal/reality, can be implemented.

Please replace the paragraph beginning at page 56, line 15, with the following replacement paragraph in marked up form:

According to the audio information transforming program ~~set forth in Claim 19,~~ of least one embodiment, in the case that the position information of the succeeding screen cannot be obtained at the time of the final image of the title that is now being replayed, for example, the audio frequency of the object, which is heard at the virtual listening point, can be calculated by using the formula of the audio frequency transformation that is obtained in audio frequency transformation processing in the preceding image of the final image. Therefore, such a

possibility can be eliminated that the audio frequency transformation cannot be executed in the final image of the title, or the like because of lack of information. As a result, if the recording medium (the memory such as ROM, or the like) in which this program is recorded is employed, the video/audio player (DVD player, LD player, game, MPEG player, system in the movie theater, etc.), which can produce the audio environment with the strong appeal/reality, can be implemented.

Please replace the paragraph beginning at page 57, line 8, with the following replacement paragraph in marked up form:

According to the audio information transforming program ~~set forth in Claim 20,~~ of least one embodiment, when the reduced scale of the screen is changed by zoom-in, zoom-out, or the like of the replayed screen, the audio information transformation can be executed precisely. Therefore, if the recording medium (the memory such as ROM, or the like) in which this program is recorded is employed, the video/audio player (DVD player, LD player, game, MPEG player, system in the movie theater, etc.), which can produce the audio environment with the strong appeal/reality, can be implemented.

Please replace the paragraph beginning at page 57, line 19 with the following replacement paragraph in marked up form:

According to the audio information transforming device ~~set forth in Claim 21,~~ of least one embodiment, with respect to the object having the video/audio information constituting the scene that is replayed on the screen in the video/audio format such as MPEG 4, for example, the Doppler effect can be added to the audio information at the virtual listening point such that, for

example, the frequency of the sound is increased if the object approaches the virtual listening point or the frequency of the sound is decreased if the object leaves the virtual listening point. Therefore, if this audio information transforming device is employed, the audio environment with the strong appeal/reality, which enables the listener to feel that such listener just enters into the video (the virtual listening point), can be produced.

Please replace the paragraph beginning at page 58, line 8 with the following replacement paragraph in marked up form:

According to the audio information transforming device ~~set forth in Claim 22,~~ of least one embodiment, the audio environment with the appeal/reality, which enables the listener to feel that such listener just enters into the video (the virtual listening point) and to grasp such a situation that the object in the screen is moving from the virtual listening point by the audio or to grasp such a situation that the listener himself or herself is moving by the audio, can be produced.

Please replace the paragraph beginning at page 58, line 17 with the following replacement paragraph in marked up form:

According to the audio information transforming device ~~set forth in Claim 23,~~ the audio environment with the appeal/reality, which enables the listener to feel that such listener just enters into the video (the virtual listening point) and to grasp such a situation that the object in the screen is moving from the virtual listening point by the audio, can be produced.

Please replace the paragraph beginning at page 58, line 24, with the following replacement paragraph in marked up form:

According to the audio information transforming device ~~set forth in Claim 24,~~ of least one embodiment, the audio environment with the appeal/reality, which enables the listener to feel that such listener just enters into the video (the virtual listening point) and to grasp such a situation that the listener himself or herself (positioned at the virtual listening point) is moving by the audio, can be produced.

Please replace the paragraph beginning at page 59, line 5 with the following replacement paragraph in marked up form:

[0194] According to the audio information transforming device ~~set forth in Claim 25,~~ of least one embodiment, with respect to the scene that is replayed on the screen in the video/audio format such as DVD, for example, the Doppler effect is added to the audio information at the virtual listening point in response to the moving speed of the background. Therefore, the audio environment with the appeal/reality, which enables the listener to feel that such listener just enters into the video (the virtual listening point) and to grasp such a situation that the background of the screen is moving from the virtual listening point by the audio, can be produced.